UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,361	02/08/2001	Freeman Leigh Rawson III	AUS920000520US1	6051

7590   04/05/2004

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EXAMINER
PATEL, HARESH N

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 February 2001_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-24_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _08 February 2001_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-24 are presented for examination.

Specification

2.   The disclosure is objected. Some of the informalities are:

        i.   The attorney docket numbers of section "CROSS-REFERENCE TO

        RELATED APPLICATIONS" needs to be replaced with the co-pending

        application serial numbers.

        ii.   The "Summary of the invention" section needs to be modified to reflect

        the claimed subject matter. The copending applications, 09779358 and 09779362

        also contain identical description. Hence, line 21 of page 2 – line11 of page 3

        needs to be removed.

     Appropriate correction is required.

3.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

        The following title is suggested: "Network Management Server combining PDUs to

minimize bandwidth consumption at data link layer".

Drawings

4.   New corrected drawing is required in this application because Figure 5 contains term

"protoco". It is should be corrected as "protocol".

Claim Objections

5.   Claim 21 is objected to because of the following informalities:

Claim 21 mentions "receiving the a PDU", which is incorrect.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   Claims 1, 2, 5, 7-9, 13, 16, 22, 23, are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yuasa et al. 6,085,238 (Hereinafter Yuasa) in view of Ganz et. al. 6,049,549

(Hereafter Ganz) in further view of Bobeck et al. 6,075,787 (Hereafter Bobeck).

8.   As per claims 1, 9, 13, 22, Yuasa teaches the following:

a data processing network, comprising,

a method of transmitting protocol data units (PDUs) across a data processing network

comprising,

a management server suitable for operating in a data processing network, comprising:

a first server including a first network interface card (NIC) that connects the first server

to a central switch (e.g., one server connected to another server through an Ethernet switch using

NICs, figure 34, col., 47, line 1 – col., 49, line 62, col., 4, line37 – col., 6, line 47, NIC cards,

col., 21, line 8 – col., 22, line 44),

a second server including a second network interface card (NIC) that connects the second

server to the central switch (e.g., one server connected to another server through an Ethernet

switch using NICs, figure 34, col., 47, line 1 – col., 49, line 62, col., 4, line37 – col., 6, line 47,

NIC cards, col., 21, line 8 – col., 22, line 44),

wherein the first NIC is configured to store a first protocol data unit (PDU) in a buffer

upon determining that the first PDU is of a first type (e.g., response to the broadcast message,

figure 34, col., 47, line 1 – col., 49, line 62, col., 4, line37 – col., 6, line 47),

However, Yuasa does not specifically mention about NIC comprising a processor and a

buffer. However, the concept of using the NIC cards for data link layer protocol for the

communication between management server and other servers is clearly disclosed by Yuasa and

it is also well known in the prior art, for example, Ganz, discloses the use of NIC comprising a

processor and a buffer (e.g., NIC containing Control processor and buffers, figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Yuasa and Ganz because Ganz's use of NIC card having

processor and a buffer to poll low-level messages would facilitate a management server to

manage other servers on the network. The low-level messages can be easily sent from one

device to another device that can help gather information from remote devices, as suggested by

Ganz.

Yuasa and Ganz do not specifically mention about combining the PDUs when the target

is common. However, the concept of minimizing the packets on the network is clearly disclosed

by Yuasa and Ganz and it is also well known in the prior art, for example, Bobeck, discloses the

use of combining the first PDU stored in the buffer with a second PDU of a second type upon

determining that the first and second PDU share a common target (e.g., ADAPT VL PDU

segment header, combined with a subframe pointer field, to mark the end/beginning of individual

PDUs, col., 11, line 24 – col., 15, line 28).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Yuasa, Ganz and Bobeck because Bobeck's use of

combining the PDUs for the same target would facilitate a single packet that can be sent from the

management server to the managed server. Combining the PDUs, i.e., protocol packets would

help reduce number of packets flowing in the network. Hence, the bandwidth usage of the

communication mechanism of the network can be easily maintained, as suggested by Bobeck.

9.   As per claims 2, 7, 8, 16, 23, Yuasa teaches the following:

        the first type of PDU comprises a management PDU (e.g., broadcast message packet sent

to the servers by the system management server, figure 34, col., 47, line 1 – col., 49, line 62, col.,

4, line37 – col., 6, line 47), and the second type of PDU comprises an application PDU (e.g.,

application message packet sent to the servers by the system management server, figure 34, col.,

47, line 1 – col., 49, line 62, col., 4, line37 – col., 6, line 47),

        the first server comprises a dedicated management server suitable for managing each of

server appliance (e.g., system management server, figure 34, col., 47, line 1 – col., 49, line 62,

col., 4, line37 – col., 6, line 47) that is physically connected to the central switch (e.g., Ethernet

switch, figure 34, col., 47, line 1 – col., 49, line 62, col., 4, line37 – col., 6, line 47),

the second server comprises one of the at least one server appliances (e.g., other servers,

figure 34, col., 47, line 1 – col., 49, line 62, col., 4, line37 – col., 6, line 47).

10.   As per claim 5, Yuasa does not specifically mention about a data link layer header.

Ganz teaches usage of a data link level PDU including media access control (MAC)

header (e.g., use of MAC header of the polling message, col., 5, line 26 – col., 7, line 62).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Yuasa, Ganz and Bobeck because Ganz's use of MAC

header would facilitate sending a message to the target server. The MAC header containing

information of the server address will be used to forward the message to the address specified

server, as suggested by Ganz.

11.   Claims 3, 4, 10-12, 14, 15, 17-21, 24, are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yuasa, Ganz, Bobeck and in further view of Dowd et al. 6,141,755 (Hereafter

Dowd).

12.   As per claims 3, 4, Yuasa, Ganz and Bobeck teach the claimed limitations as mentioned

above. However, Yuasa, Ganz and Bobeck do not specifically mention about use of network's

maximum transmission unit (MTU). Nevertheless, it is also well known in the prior art, for

example, Dowd teaches about PDUs and to retain their size less than the MTU size in the

Background of the invention section (e.g., PDU frame into a fixed size limited by the MTU of

the physical layer PDU, col., 1, line 42 – col., 2, line 46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Yuasa, Ganz, Bobeck and Dowd because Dowd's use of MTU size would facilitate limiting the PDU size to the MTU size. PDU size limited to the MTU size handled by the communication mechanism provides best effort delivery of the packets, as suggested by Dowd.

13.   As per claims 10-12, 14, 15, 17-21, 24, refer to claims 3 and 4 for rejection and combination of references.

14.   Claim 6, is rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa, Ganz, Bobeck in further view of "Official Notice".

15.   As per claim 6, Yuasa, Ganz and Bobeck teach the claimed limitations as mentioned above. Yuasa also teaches network protocol stack comprises the TCP/IP protocols (e.g., In addition, in an information system network using a LAN connecting personal computers (PCs) as terminals and a host computer on a TCP/IP protocol basis, a client and centralized server network is a paradigm, wherein most employees connect PCs as their own client machines to the network, col., 1, line 15 – col., 3, line 26), and

the second PDU comprises an application PDU generated at the highest level of the protocol stack (e.g., application message packet sent to the servers by the system management server, figure 34, col., 47, line 1 – col., 49, line 62, col., 4, line37 – col., 6, line 47).

However, Yuasa, Ganz and Bobeck do not specifically mention about use of TCP/IP protocol headers. "Official Notice" is taken that both the concept and advantages of providing headers for the TCP/IP protocol is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include TCP/IP protocol headers with the teachings of Yuasa, Ganz and Bobeck to facilitate a communication mechanism between the management server and the managed server. The PDU generated at the application level of the management server will have headers added when flowing through the protocol stack. The TCP header at the TCP layer of the protocol stack, the IP header at the IP layer and a MAC header at the MAC layer will provide layer specific information so that the packet will be handled as per the layer provided information.

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee, can be reached at (703) 305-8498.
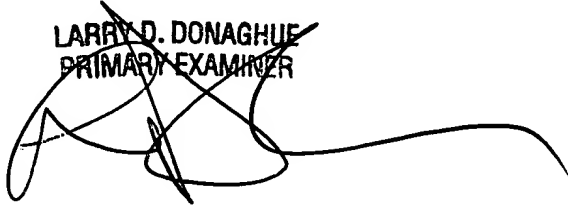
The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

March 21, 2004

LARRY D. DONAGHUE
PRIMARY EXAMINER